CLAIMS

1. A process for producing a gasoline stock with a high octane number by hydroisomerisation of a feed constituted by a cut in the range C5 to C8, comprising at least one hydroisomerisation section and at least one separation section functioning by adsorption, characterized in that said separation section contains at least one zeolitic adsorbent with at least two types of channels, principal channels with an opening defined by a ring of 10 oxygen atoms (10 MR) and secondary channels with an opening defined by a ring of at least 12 oxygen atoms (at least 12 MR), said secondary channels only being accessible to the feed to be separated via the principal channels.

2. A process according to claim 1, characterized in that said adsorbent in the separation section contains silicon and at least one element T selected from the group formed by aluminium, iron, gallium and boron, the Si/T mole ratio being at least 10.

3. A process according to claim 1 or claim 2, characterized in that said zeolitic adsorbent in the separation section is a zeolite with structure type EUO.

4. A process according to claim 1 or claim 2, characterized in that said zeolitic adsorbent in the separation section is a zeolite with structure type NES.

5. A process according to claim 1 or claim 2, characterized in that said zeolitic adsorbent in the separation section is a zeolite with structure type MWW.

6. A process according to claim 1 or claim 2, characterized in that said zeolitic adsorbent in the separation section is a NU-85 zeolite.

7. A process according to claim 1 or claim 2, characterized in that said zeolitic adsorbent in the separation section is a NU-86 zeolite.

8. A process according to any one of claims 1 to 7, characterized in that said zeolitic adsorbent is mixed with a zeolite type LTA.

9. A process according to any one of claims 1 to 8, characterized in that it comprises at least one hydroisomerisation section (2) and at least one adsorption separation section (4), in which the hydroisomerisation section (2) comprises at least one reactor, the separation section (4) comprises at least one unit and produces at least two fluxes, a first flux (8, 18) that is rich in dibranched and tribranched paraffins, optionally in naphthenes and aromatics, which is sent to the gasoline pool, and a second flux (7, 9) that is rich in linear and monobranched paraffins that is recycled to the inlet to the hydroisomerisation section (2).

10. A process according to any one of claims 1 to 8, characterized in that it comprises at least two hydroisomerisation sections (2, 3) and at least one separation section (4), in which the separation section produces three fluxes, a first flux (8, 18, 28, 38) that is rich in dibranched and tribranched paraffins, optionally in naphthenes and aromatic compounds that is sent to the gasoline pool, a second flux (11, 16, 20, 24, 30, 36) that is rich in linear paraffins that is recycled to the inlet to the first hydroisomerisation section and a third flux (12, 21, 26, 34, 35, 39) that is rich in monobranched paraffins that is recycled to the inlet to the second hydroisomerisation section (3).

11. A process according to claim 10, characterized in that the whole of the effluent from the first hydroisomerisation (2)section traverses the second section (3).

12. A process according to claim 11, characterized in that the separation section (4) is located downstream of the hydroisomerisation sections (2, 3), the feed (1) is mixed with the recycle of paraffins (30) from the separation section (4), the resulting mixture (33) is sent to the first hydroisomerisation section (2), the effluent leaving the first hydroisomerisation section is mixed with the flux that is rich in monobranched paraffins (39) from the separation section (4), then the mixture is sent to the second hydroisomerisation section (3), and the effluent (37) from said latter section is sent to the separation section (4).

13. A process according to claim 11, characterized in that the separation section (4) is located upstream of hydroisomerisation sections (2, 3), the feed (1) is mixed with the flux (14) from the second hydroisomerisation section (3), then the resulting mixture (23) is sent to the separation section (4), the linear paraffin-rich effluent (11) is sent to the first hydroisomerisation section (2), the monobranched paraffin-rich flux (12) from the section (4) for separating an effluent (13) from the first hydroisomerisation section (2) is added, and the ensemble is sent to the second hydroisomerisation section (3).

14. A process according to claim 10, characterized in that the effluents from the hydroisomerisation sections are sent to at least one separation section.

15. A process according to any one of claims 1 to 14, characterized in that at least one light fraction is separated by distillation upstream or downstream of the hydroisomerisation (2, 3) and/or separation (4, 5) sections.

16. A process according to any one of claims 1 to 14, characterized in that the feed contains a C5 cut and at least one deisopentaniser and/or at least one depentaniser is/are located upstream or downstream of the hydroisomerisation (2, 3) and/or separation (4, 5) sections.

17. A process according to any one of claims 1 to 14, characterized in that the feed contains a C6 cut but contains no C5 cut, and at least one deisohexaniser is disposed upstream or downstream of the hydroisomerisation (2, 3) and/or separation (4, 5) sections.

18. A process according to any one of claims 15 to 17, characterized in that the light fraction, or the isopentane and/or pentane and/or a mixture of the two, or hexane, act as an eluent for the adsorption separation section.

19. A process according to any one of claims 1 to 18, characterized in that butane and/or isobutane is used as the eluent for the adsorption separation section.

20. A process according to claim 16, characterized in that the isopentane is sent to the gasoline pool.

21. A process according to any one of claims 1 to 20, characterized in that hydroisomerisation is carried out at temperatures in the range 25°C to 450°C, at a pressure in the range 0.01 to 0.7 MPa, at a space velocity, measured in kg of feed per kg of catalyst per hour, in the range 0.5 to 2, and with a H_2/hydrocarbon mole ratio in the range 0.01 to 50.

22. A process according to any one of claims 1 to 21, characterized in that separation is carried out at temperatures in the range 50°C to 450°C and at a pressure in the range 0.01 to 7 MPa.